

OIPE

#

4

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,387A

DATE: 10/31/2002

TIME: 16:03:06

Input Set : N:\jumbos\huge\1007387A.RAW.txt

Output Set: N:\CRF4\10312002\J070387A.raw

p.6

2 <110> APPLICANT: MIDOH, Naoki
3 OKAKURA, Kaoru
4 MIYAMOTO, Koichi
5 WATANABE, Manabu
6 YANAI, Koji
7 YASUTAKE, Tetsuya
8 AIHARA, Sato
9 FUTAMURA, Takafumi
10 KLEINKAUF, Horst
11 MURAKAMI, Takeshi
13 <120> TITLE OF INVENTION: Cyclic Depsipeptide Synthetase And Gene Thereof, And Mass
Production System
14 For Cyclic Depsipeptide
16 <130> FILE REFERENCE: 2002-0317A/LC/00144
18 <140> CURRENT APPLICATION NUMBER: 10/070,387A
C--> 19 <141> CURRENT FILING DATE: 2002-07-22
21 <150> PRIOR APPLICATION NUMBER: JP 253040/1999
22 <151> PRIOR FILING DATE: 1999-09-07
24 <150> PRIOR APPLICATION NUMBER: JP 104291/2000
25 <151> PRIOR FILING DATE: 2000-04-06
27 <160> NUMBER OF SEQ ID NOS: 21
29 <170> SOFTWARE: PatentIn Ver. 2.1
31 <210> SEQ ID NO: 1
32 <211> LENGTH: 9633
33 <212> TYPE: DNA
34 <213> ORGANISM: Mycelia sterilia
36 <220> FEATURE:
37 <221> NAME/KEY: CDS
38 <222> LOCATION: (1)..(9633)
39 <223> OTHER INFORMATION: peptide synthetase for PF1022
41 <220> FEATURE:
42 <221> NAME/KEY: mat_peptide
43 <222> LOCATION: (13)..(9630)
45 <400> SEQUENCE: 1
46 atg tca aac atg gca cca ctc cct acg atg ggc gtt gag cag caa gcc 48
47 Met Ser Asn Met Ala Pro Leu Pro Thr Met Gly Val Glu Gln Gln Ala
W--> 48 -1 -1 5 10
50 cta tca ctt tca tgc ccc tta ctc cct cat gac gat gag aaa cac tca 96
51 Leu Ser Leu Ser Cys Pro Leu Leu Pro His Asp Asp Glu Lys His Ser
W--> 52 15 20 25
54 gac aac ctt tac gag caa gca act cgg cac ttc ggc ttg agc cga gac 144
55 Asp Asn Leu Tyr Glu Gln Ala Thr Arg His Phe Gly Leu Ser Arg Asp
W--> 56 30 35 40
58 aag atc gaa aat gtc tta cca tgt act tcc ttt caa tgt gat gtc ata 192

ENTERED

RAW SEQUENCE LISTING

DATE: 10/31/2002

PATENT APPLICATION: US/10/070,387A

TIME: 16:03:06

Input Set : N:\jumbos\huge\1007387A.RAW.txt

Output Set: N:\CRF4\10312002\J070387A.raw

```

59 Lys Ile Glu Asn Val Leu Pro Cys Thr Ser Phe Gln Cys Asp Val Ile
W--> 60 45 50 55 60
62 gat tgc gcc gtc gac gat cgg cgg cat gct atc ggt cac gtc gtc tat 240
63 Asp Cys Ala Val Asp Asp Arg Arg His Ala Ile Gly His Val Val Tyr
W--> 64 65 70 75
66 gat atc ccc aat aca gtg gac atc cag cgt tta gcc gca gcc tgg aaa 288
67 Asp Ile Pro Asn Thr Val Asp Ile Gln Arg Leu Ala Ala Ala Trp Lys
W--> 68 80 85 90
70 gag gtt gtg cgg cag aca cca atc ttg agg acc ggc atc ttt aca tca 336
71 Glu Val Val Arg Gln Thr Pro Ile Leu Arg Thr Gly Ile Phe Thr Ser
W--> 72 95 100 105
74 gaa acc ggc gac tct ttt cag atc gtc ttg aaa gaa ggc tgc cta ccg 384
75 Glu Thr Gly Asp Ser Phe Gln Ile Val Leu Lys Glu Gly Cys Leu Pro
W--> 76 110 115 120
78 tgg atg tac gcg aca tgt ctc ggc atg aag ggg gca gtg ata caa gat 432
79 Trp Met Tyr Ala Thr Cys Leu Gly Met Lys Gly Ala Val Ile Gln Asp
W--> 80 125 130 135 140
82 gaa gca gtc gcc gct atg act gga ccg cgt tgc aat cga tat gtc gtc 480
83 Glu Ala Val Ala Ala Met Thr Gly Pro Arg Cys Asn Arg Tyr Val Val
W--> 84 145 150 155
86 ctg gag gac ccg agt acg aag caa agg ctg ctc atc tgg aca ttc agc 528
87 Leu Glu Asp Pro Ser Thr Lys Gln Arg Leu Leu Ile Trp Thr Phe Ser
W--> 88 160 165 170
90 cat gct tta gtg gat tat aca gtc cag gaa cgc atc ctt cag cgg gtt 576
91 His Ala Leu Val Asp Tyr Thr Val Gln Glu Arg Ile Leu Gln Arg Val
W--> 92 175 180 185
94 ctc aca gta tac gac ggc cgg gac gtc gag tgc cct cgc atc aag gat 624
95 Leu Thr Val Tyr Asp Gly Arg Asp Val Glu Cys Pro Arg Ile Lys Asp
W--> 96 190 195 200
98 aca gaa cat gtc tct cgg ttt tgg caa caa cac ttt gaa ggc tta gat 672
99 Thr Glu His Val Ser Arg Phe Trp Gln Gln His Phe Glu Gly Leu Asp
W--> 100 205 210 215 220
102 gcc tcc gta ttt ccc ctt cta cca tct cac cta act gtg tgc aat ccc 720
103 Ala Ser Val Phe Pro Leu Leu Pro Ser His Leu Thr Val Cys Asn Pro
W--> 104 225 230 235
106 aat gcg cgc gca gaa cat cat atc tca tac acg gga cca gtc cag agg 768
107 Asn Ala Arg Ala Glu His His Ile Ser Tyr Thr Gly Pro Val Gln Arg
W--> 108 240 245 250
110 aag tgg tcc cat aca agt atc tgt cgg gct gca ctc gca gtt ctt cta 816
111 Lys Trp Ser His Thr Ser Ile Cys Arg Ala Ala Leu Ala Val Leu Leu
W--> 112 255 260 265
114 tct cgc ttt aca cac tct tcg gag gcc ctc ttc ggt gtt gtg aca gaa 864
115 Ser Arg Phe Thr His Ser Ser Glu Ala Leu Phe Gly Val Val Thr Glu
W--> 116 270 275 280
118 caa tct cac aac tcc gag gac caa aga cgg tca att gat ggc ccc gca 912
119 Gln Ser His Asn Ser Glu Asp Gln Arg Arg Ser Ile Asp Gly Pro Ala
W--> 120 285 290 295 300
122 agg aca gta gtg cct atc cgc gtc ctt tgt gcc cca gat caa tat gtg 960
123 Arg Thr Val Val Pro Ile Arg Val Leu Cys Ala Pro Asp Gln Tyr Val

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,387A

DATE: 10/31/2002

TIME: 16:03:06

Input Set : N:\jumbos\huge\1007387A.RAW.txt

Output Set: N:\CRF4\10312002\J070387A.raw

```

W--> 124          305          310          315
      126 tcg gat gtc att ggg gca atc acc gca cac gaa cac gcc atg cgc ggg 1008
      127 Ser Asp Val Ile Gly Ala Ile Thr Ala His Glu His Ala Met Arg Gly
W--> 128          320          325          330
      130 ttt gag cac gct gga ctt cgc aat atc cgc cgt acc gga gac gac ggg 1056
      131 Phe Glu His Ala Gly Leu Arg Asn Ile Arg Arg Thr Gly Asp Asp Gly
W--> 132          335          340          345
      134 tct gct gct tgt gga ttc cag acc gtg cta ctg gtg act gac ggt gat 1104
      135 Ser Ala Ala Cys Gly Phe Gln Thr Val Leu Leu Val Thr Asp Gly Asp
W--> 136          350          355          360
      138 gct ccc aag acc cct ggg agt gta ctt cat cga agt gta gaa gaa tcg 1152
      139 Ala Pro Lys Thr Pro Gly Ser Val Leu His Arg Ser Val Glu Glu Ser
W--> 140 365          370          375          380
      142 gat aga ttc atg ccc tgc gct aat cgt gcc ctt ctg ctc gac tgc cag 1200
      143 Asp Arg Phe Met Pro Cys Ala Asn Arg Ala Leu Leu Leu Asp Cys Gln
W--> 144          385          390          395
      146 atg gct ggc aac tcg gca tcc cta gtc gca cga tat gat cat aat gtg 1248
      147 Met Ala Gly Asn Ser Ala Ser Leu Val Ala Arg Tyr Asp His Asn Val
W--> 148          400          405          410
      150 atc gac cca cgc cag atg tct cgc ttc ctg cga cag cta gga tac ctg 1296
      151 Ile Asp Pro Arg Gln Met Ser Arg Phe Leu Arg Gln Leu Gly Tyr Leu
W--> 152          415          420          425
      154 atc caa caa ttt cat cat cac gtc gat ctg cct ctg gtc aaa gaa ctg 1344
      155 Ile Gln Gln Phe His His His Val Asp Leu Pro Leu Val Lys Glu Leu
W--> 156          430          435          440
      158 gac gtc gtg acg gcg gag gat tgt gcg gaa atc gag aaa tgg aat tca 1392
      159 Asp Val Val Thr Ala Glu Asp Cys Ala Glu Ile Glu Lys Trp Asn Ser
W--> 160 445          450          455          460
      162 gaa cgc cta aca atg caa gac gcc tta atc cac gac acc ata tcc aag 1440
      163 Glu Arg Leu Thr Met Gln Asp Ala Leu Ile His Asp Thr Ile Ser Lys
W--> 164          465          470          475
      166 tgg gct gct ggc gat ccc aac aaa gct gca gtt ttc gct tgg gat ggg 1488
      167 Trp Ala Ala Gly Asp Pro Asn Lys Ala Ala Val Phe Ala Trp Asp Gly
W--> 168          480          485          490
      170 gaa tgg aca tac gcc gag cta gac aac ata tcc tcc cgt ctc gcc gtg 1536
      171 Glu Trp Thr Tyr Ala Glu Leu Asp Asn Ile Ser Ser Arg Leu Ala Val
W--> 172          495          500          505
      174 tat atc caa tcc ctg gac ttg aga cca gga caa gca ata ctc cca ctc 1584
      175 Tyr Ile Gln Ser Leu Asp Leu Arg Pro Gly Gln Ala Ile Leu Pro Leu
W--> 176          510          515          520
      178 tgc ttc gag aag tca aaa tgg gtc gtc gcc aca att ctc gcc gtc ctc 1632
      179 Cys Phe Glu Lys Ser Lys Trp Val Val Ala Thr Ile Leu Ala Val Leu
W--> 180 525          530          535          540
      182 aaa gtc ggt cgg gca ttc aca ctc atc gac ccg tgc gac ccc tcg gca 1680
      183 Lys Val Gly Arg Ala Phe Thr Leu Ile Asp Pro Cys Asp Pro Ser Ala
W--> 184          545          550          555
      186 agg atg gcc cag gtc tgt cag cag acc tcc gcc aca gtc gct ctc acc 1728
      187 Arg Met Ala Gln Val Cys Gln Gln Thr Ser Ala Thr Val Ala Leu Thr
W--> 188          560          565          570

```

RAW SEQUENCE LISTING

DATE: 10/31/2002

PATENT APPLICATION: US/10/070,387A

TIME: 16:03:06

Input Set : N:\jumbos\huge\1007387A.RAW.txt

Output Set: N:\CRF4\10312002\J070387A.raw

	190	tcc	aaa	ctc	cac	aac	acc	acc	tta	cgt	tcc	gtc	gtt	tcc	cgc	tgc	att	1776
	191	Ser	Lys	Leu	His	Asn	Thr	Thr	Leu	Arg	Ser	Val	Val	Ser	Arg	Cys	Ile	
W-->	192			575					580					585				
	194	gtg	gtc	gac	gac	gac	ctc	ctt	cgg	tcc	tta	ccc	cac	gcc	gat	ggc	cgc	1824
	195	Val	Val	Asp	Asp	Asp	Leu	Leu	Arg	Ser	Leu	Pro	His	Ala	Asp	Gly	Arg	
W-->	196			590					595					600				
	198	tta	aag	gcc	acc	gtg	aag	cca	cag	gac	ttg	gcc	tat	gtt	att	ttc	aca	1872
	199	Leu	Lys	Ala	Thr	Val	Lys	Pro	Gln	Asp	Leu	Ala	Tyr	Val	Ile	Phe	Thr	
W-->	200	605					610					615				620		
	202	tct	ggc	agc	aca	gga	gag	ccg	aaa	ggc	atc	atg	atc	gaa	cat	cgg	ggg	1920
	203	Ser	Gly	Ser	Thr	Gly	Glu	Pro	Lys	Gly	Ile	Met	Ile	Glu	His	Arg	Gly	
W-->	204					625					630					635		
	206	ttc	gtg	tcg	tgt	gct	atg	aaa	ttt	ggc	ccc	gcg	ctc	gga	atg	gat	gag	1968
	207	Phe	Val	Ser	Cys	Ala	Met	Lys	Phe	Gly	Pro	Ala	Leu	Gly	Met	Asp	Glu	
W-->	208				640						645					650		
	210	cac	acg	cgc	gct	ctt	caa	ttc	gcc	tca	tat	gcg	ttt	ggc	gct	tgt	ctg	2016
	211	His	Thr	Arg	Ala	Leu	Gln	Phe	Ala	Ser	Tyr	Ala	Phe	Gly	Ala	Cys	Leu	
W-->	212			655					660					665				
	214	gta	gaa	gtt	gtg	aca	gct	ctg	atg	cac	ggc	ggc	tgc	gtc	tgc	atc	cct	2064
	215	Val	Glu	Val	Val	Thr	Ala	Leu	Met	His	Gly	Gly	Cys	Val	Cys	Ile	Pro	
W-->	216			670					675					680				
	218	tcc	gat	gac	gat	cgc	ttg	aac	aat	gta	ccg	gag	ttc	atc	aaa	agg	gcc	2112
	219	Ser	Asp	Asp	Asp	Arg	Leu	Asn	Asn	Val	Pro	Glu	Phe	Ile	Lys	Arg	Ala	
W-->	220	685				690						695				700		
	222	cag	gtg	aac	tgg	gtg	ata	ctc	act	ccg	tcg	tat	atc	ggg	aca	ttc	cag	2160
	223	Gln	Val	Asn	Trp	Val	Ile	Leu	Thr	Pro	Ser	Tyr	Ile	Gly	Thr	Phe	Gln	
W-->	224				705						710					715		
	226	ccg	gaa	gat	gtc	cct	gga	cta	caa	aca	ctg	gta	ttg	gtt	gga	gaa	cct	2208
	227	Pro	Glu	Asp	Val	Pro	Gly	Leu	Gln	Thr	Leu	Val	Leu	Val	Gly	Glu	Pro	
W-->	228				720						725					730		
	230	atc	tca	gcg	tct	att	cgg	gat	acc	tgg	gcc	tcc	cag	gtt	cga	ctc	ctg	2256
	231	Ile	Ser	Ala	Ser	Ile	Arg	Asp	Thr	Trp	Ala	Ser	Gln	Val	Arg	Leu	Leu	
W-->	232			735					740					745				
	234	aat	gcc	tac	ggt	cag	agt	gaa	agc	tca	act	atg	tgc	agc	gtc	acg	gaa	2304
	235	Asn	Ala	Tyr	Gly	Gln	Ser	Glu	Ser	Ser	Thr	Met	Cys	Ser	Val	Thr	Glu	
W-->	236			750					755					760				
	238	gtc	agc	ccg	ctc	tcc	ctc	gaa	ccg	aac	aat	atc	ggt	cgg	gct	gta	ggc	2352
	239	Val	Ser	Pro	Leu	Ser	Leu	Glu	Pro	Asn	Asn	Ile	Gly	Arg	Ala	Val	Gly	
W-->	240	765				770						775				780		
	242	gca	cga	tcc	tgg	atc	att	gat	ccc	gac	gag	cct	gat	cgt	ctt	gct	cca	2400
	243	Ala	Arg	Ser	Trp	Ile	Ile	Asp	Pro	Asp	Glu	Pro	Asp	Arg	Leu	Ala	Pro	
W-->	244				785						790					795		
	246	att	ggc	tgc	att	gga	gag	cta	gtg	atc	gaa	agt	ccg	ggc	att	gcg	cgc	2448
	247	Ile	Gly	Cys	Ile	Gly	Glu	Leu	Val	Ile	Glu	Ser	Pro	Gly	Ile	Ala	Arg	
W-->	248			800						805					810			
	250	gac	tat	atc	atc	gcg	ccg	ccg	ccg	gac	aag	tcc	ccc	ttt	ctc	cta	gca	2496
	251	Asp	Tyr	Ile	Ile	Ala	Pro	Pro	Pro	Asp	Lys	Ser	Pro	Phe	Leu	Leu	Ala	
W-->	252			815					820					825				
	254	ccc	ccg	gcc	tgg	tat	cca	gcc	ggg	aaa	tta	tcc	aac	gcc	ttt	aaa	ttt	2544

RAW SEQUENCE LISTING

DATE: 10/31/2002

PATENT APPLICATION: US/10/070,387A

TIME: 16:03:06

Input Set : N:\jumbos\huge\1007387A.RAW.txt

Output Set: N:\CRF4\10312002\J070387A.raw

	255	Pro	Pro	Ala	Trp	Tyr	Pro	Ala	Gly	Lys	Leu	Ser	Asn	Ala	Phe	Lys	Phe	
W-->	256		830					835					840					
	258	tac	aag	act	gga	gat	ctc	gtg	cgt	tat	gga	cct	gac	ggc	acc	atc	gtc	2592
	259	Tyr	Lys	Thr	Gly	Asp	Leu	Val	Arg	Tyr	Gly	Pro	Asp	Gly	Thr	Ile	Val	
W-->	260	845					850					855				860		
	262	tgc	ctg	gga	cgc	aaa	gat	tcg	caa	gtg	aag	atc	cga	ggg	cag	cgc	gta	2640
	263	Cys	Leu	Gly	Arg	Lys	Asp	Ser	Gln	Val	Lys	Ile	Arg	Gly	Gln	Arg	Val	
W-->	264				865				870						875			
	266	gag	atc	agc	gca	gtg	gaa	gcc	agt	cta	cga	cga	caa	cta	cct	agt	gac	2688
	267	Glu	Ile	Ser	Ala	Val	Glu	Ala	Ser	Leu	Arg	Arg	Gln	Leu	Pro	Ser	Asp	
W-->	268			880					885						890			
	270	atc	atg	ccc	gtg	gcc	gaa	gct	atc	aaa	cgc	tcg	gat	tcg	tca	ggc	agc	2736
	271	Ile	Met	Pro	Val	Ala	Glu	Ala	Ile	Lys	Arg	Ser	Asp	Ser	Ser	Gly	Ser	
W-->	272		895					900					905					
	274	aca	gtc	ttg	act	gcc	ttc	ttg	ata	ggg	tca	tct	aag	agc	gga	gat	ggt	2784
	275	Thr	Val	Leu	Thr	Ala	Phe	Leu	Ile	Gly	Ser	Ser	Lys	Ser	Gly	Asp	Gly	
W-->	276		910				915					920						
	278	aat	ggc	cac	gct	tta	tct	gcg	gca	gac	gcc	gtt	atc	ttg	gat	cac	ggt	2832
	279	Asn	Gly	His	Ala	Leu	Ser	Ala	Ala	Asp	Ala	Val	Ile	Leu	Asp	His	Gly	
W-->	280	925				930				935					940			
	282	gct	acc	aac	gag	ata	aac	gcg	aag	ttg	cag	caa	atc	ctt	ccc	cag	cat	2880
	283	Ala	Thr	Asn	Glu	Ile	Asn	Ala	Lys	Leu	Gln	Gln	Ile	Leu	Pro	Gln	His	
W-->	284			945				950					955					
	286	tcc	gtt	cca	tcc	tat	tat	atc	cac	atg	gaa	aat	ctt	cct	cga	act	gcc	2928
	287	Ser	Val	Pro	Ser	Tyr	Tyr	Ile	His	Met	Glu	Asn	Leu	Pro	Arg	Thr	Ala	
W-->	288			960				965					970					
	290	acc	ggc	aaa	gcg	gac	agg	aaa	atg	ctt	cga	tct	att	gct	agc	aag	cta	2976
	291	Thr	Gly	Lys	Ala	Asp	Arg	Lys	Met	Leu	Arg	Ser	Ile	Ala	Ser	Lys	Leu	
W-->	292		975				980					985						
	294	ttg	ggt	gaa	ttg	tct	cag	aac	gtg	aca	tct	caa	ccg	att	gag	aag	cac	3024
	295	Leu	Gly	Glu	Leu	Ser	Gln	Asn	Val	Thr	Ser	Gln	Pro	Ile	Glu	Lys	His	
W-->	296		990				995				1000							
	298	gat	gcc	cca	gca	act	ggt	ata	gag	gtc	aag	ctg	aag	gag	ctt	tgg	ttt	3072
	299	Asp	Ala	Pro	Ala	Thr	Gly	Ile	Glu	Val	Lys	Leu	Lys	Glu	Leu	Trp	Phe	
W-->	300	1005			1010			1015				1020						
	302	ctg	agc	ttg	aat	ctt	aat	ccc	aac	tct	caa	gat	gtc	gga	gcg	agt	ttc	3120
	303	Leu	Ser	Leu	Asn	Leu	Asn	Pro	Asn	Ser	Gln	Asp	Val	Gly	Ala	Ser	Phe	
W-->	304			1025				1030				1035						
	306	ttt	gac	tta	ggc	gga	aat	tcc	att	atc	gcc	atc	aaa	atg	gta	aac	atg	3168
	307	Phe	Asp	Leu	Gly	Gly	Asn	Ser	Ile	Ile	Ala	Ile	Lys	Met	Val	Asn	Met	
W-->	308		1040				1045				1050							
	310	gcg	agg	tca	gct	ggg	ata	gca	ctg	aag	gta	tcc	gac	ata	ttc	cag	aat	3216
	311	Ala	Arg	Ser	Ala	Gly	Ile	Ala	Leu	Lys	Val	Ser	Asp	Ile	Phe	Gln	Asn	
W-->	312		1055			1060			1065									
	314	ccc	acg	ctc	gcc	ggc	ctt	gtg	gat	gtc	atc	ggg	cga	gac	ccg	gct	ccg	3264
	315	Pro	Thr	Leu	Ala	Gly	Leu	Val	Asp	Val	Ile	Gly	Arg	Asp	Pro	Ala	Pro	
W-->	316		1070			1075			1080									
	318	tac	aac	ctc	atc	cca	aca	aca	gca	tac	agc	gga	cct	gtt	gag	cag	tcg	3312
	319	Tyr	Asn	Leu	Ile	Pro	Thr	Thr	Ala	Tyr	Ser	Gly	Pro	Val	Glu	Gln	Ser	

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/31/2002
PATENT APPLICATION: US/10/070,387A TIME: 16:03:07

Input Set : N:\jumbos\huge\1007387A.RAW.txt
Output Set: N:\CRF4\10312002\J070387A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 6,9
Seq#:6; N Pos. 3,15,18

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 13
Seq#:5; Line(s) 1493
Seq#:6; Line(s) 1535
Seq#:7; Line(s) 1577
Seq#:8; Line(s) 1589
Seq#:9; Line(s) 1601
Seq#:10; Line(s) 1613
Seq#:11; Line(s) 1625
Seq#:12; Line(s) 1637
Seq#:13; Line(s) 1649
Seq#:21; Line(s) 1745

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,387

DATE: 03/21/2002

TIME: 14:51:32

Input Set : A:\EP.txt

Output Set: N:\CRF3\03212002\J070387.raw

```

1280 Asp Asp Thr Met Arg Thr Leu Leu Asp Gly Gln Ala Pro Gly His Val
1281      2130                      2135                      2140
1283 Leu Glu Ile Gly Thr Gly Ser Gly Met Val Leu Phe Asn Leu Gly Ala
E--> 1284 145      2150                      2155                      2160
1286 Gly Leu Gln Ser Tyr Val Gly Leu Glu Pro Ser Arg Ser Ala Ala Thr
1287      2165                      2170                      2175
1289 Phe Val Thr Lys Ala Ile Asn Ser Thr Pro Ala Leu Ala Gly Lys Ala
1290      2180                      2185                      2190
1292 Glu Val His Val Gly Thr Ala Thr Asp Ile Asn Arg Leu Arg Gly Leu
1293      2195                      2200                      2205
1295 Arg Pro Asp Leu Val Val Leu Asn Ser Val Val Gln Tyr Phe Pro Thr
1296      2210                      2215                      2220
1298 Pro Glu Tyr Leu Leu Glu Val Val Glu Ser Leu Val Arg Ile Pro Gly
E--> 1299 225      2230                      2235                      2240
1301 Val Lys Arg Val Val Phe Gly Asp Ile Arg Ser His Ala Thr Asn Arg
1302      2245                      2250                      2255
1304 His Phe Leu Ala Ala Arg Ala Leu His Ser Leu Gly Ser Lys Ala Thr
1305      2260                      2265                      2270
1307 Lys Asp Ala Ile Arg Gln Lys Met Thr Glu Met Glu Glu Arg Glu Glu
1308      2275                      2280                      2285
1310 Glu Leu Leu Val Asp Pro Ala Phe Phe Thr Ala Leu Leu Gln Gly Gln
1311      2290                      2295                      2300
1313 Leu Ala Asp Arg Ile Lys His Val Glu Ile Leu Pro Lys Asn Met Arg
E--> 1314 305      2310                      2315                      2320
1316 Ala Thr Asn Glu Leu Ser Ala Tyr Arg Tyr Thr Ala Val Ile His Val
1317      2325                      2330                      2335
1319 Arg Gly Pro Glu Glu Gln Ser Arg Pro Val Tyr Pro Ile Gln Val Asn
1320      2340                      2345                      2350
1322 Asp Trp Ile Asp Phe Gln Ala Ser Arg Ile Asp Arg Arg Ala Leu Leu
1323      2355                      2360                      2365
1325 Arg Leu Leu Gln Arg Ser Ala Asp Ala Ala Thr Val Ala Val Ser Asn
1326      2370                      2375                      2380
1328 Ile Pro Tyr Ser Lys Thr Ile Val Glu Arg His Val Val Glu Ser Leu
E--> 1329 385      2390                      2395                      2400
1331 Asp Asn Asn Asn Arg Glu Asn Thr His Arg Ala Pro Asp Gly Ala Ala
1332      2405                      2410                      2415
1334 Trp Ile Ser Ala Val Arg Ser Lys Ala Glu Arg Cys Thr Ser Leu Ser
1335      2420                      2425                      2430
1338 Val Thr Asp Leu Val Gln Leu Gly Glu Glu Ala Gly Phe Arg Val Glu
1339      2435                      2440                      2445
1341 Val Ser Ala Ala Arg Gln Trp Ser Gln Ser Gly Ala Leu Asp Ala Val
1342      2450                      2455                      2460
1344 Phe His Arg Tyr Asn Leu Pro Thr Gln Ser Asn Ser Arg Val Leu Ile
E--> 1345 465      2470                      2475                      2480
1347 Gln Phe Pro Thr Glu Asp Gly Gln Thr Arg Arg Ser Ala Thr Leu Thr
1348      2485                      2490                      2495
1350 Asn Arg Pro Leu Gln Arg Leu Gln Ser Arg Arg Phe Ala Ser Gln Ile
1351      2500                      2505                      2510
1353 Arg Glu Gln Leu Lys Ala Val Leu Pro Ser Tyr Met Ile Pro Ser Arg

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/070,387

DATE: 03/21/2002

TIME: 14:51:32

Input Set : A:\EP.txt

Output Set: N:\CRF3\03212002\J070387.raw

```

1354      2515      2520      2525
1356 Ile Val Val Ile Asp Gln Met Pro Leu Asn Ala Asn Gly Lys Val Asp
1357      2530      2535      2540
1359 Arg Lys Glu Leu Thr Arg Arg Ala Gln Ile Ala Pro Lys Ser Gln Ala
E--> 1360 545      2550      2555      2560
1362 Ala Pro Ala Lys Pro Val Lys Gln Val Asp Pro Phe Val Asn Leu Glu
1363      2565      2570      2575
1365 Ala Ile Leu Cys Glu Glu Phe Ala Glu Val Leu Gly Met Glu Val Gly
1366      2580      2585      2590
1368 Val Asn Asp His Phe Phe Gln Leu Gly Gly His Ser Leu Leu Ala Thr
1369      2595      2600      2605
1371 Lys Leu Val Ala Arg Leu Ser Arg Arg Leu Asn Gly Arg Val Ser Val
1372      2610      2615      2620
1374 Arg Asp Val Phe Asp Gln Pro Val Ile Ser Asp Leu Ala Val Thr Leu
E--> 1375 625      2630      2635      2640
1377 Arg Gln Gly Leu Thr Leu Glu Asn Ala Ile Pro Ala Thr Pro Asp Ser
1378      2645      2650      2655
1380 Gly Tyr Trp Glu Gln Thr Met Ser Ala Pro Thr Thr Pro Ser Asp Asp
1381      2660      2665      2670
1383 Met Glu Ala Val Leu Cys Lys Glu Phe Ala Asp Val Leu Gly Val Glu
1384      2675      2680      2685
1386 Val Ser Ala Thr Asp Ser Phe Phe Asp Leu Gly Gly His Ser Leu Met
1387      2690      2695      2700
1389 Ala Thr Lys Leu Ala Ala Arg Ile Ser Arg Arg Leu Asp Val Pro Val
E--> 1390 705      2710      2715      2720
1392 Ser Ile Lys Asp Ile Phe Asp His Ser Val Pro Leu Asn Leu Ala Arg
1393      2725      2730      2735
1396 Lys Ile Arg Leu Thr Gln Ala Lys Gly His Glu Ala Thr Asn Gly Val
1397      2740      2745      2750
1399 Gln Ile Ala Asn Asp Ala Pro Phe Gln Leu Ile Ser Val Glu Asp Pro
1400      2755      2760      2765
1402 Glu Ile Phe Val Gln Arg Glu Ile Ala Pro Gln Leu Gln Cys Ser Pro
1403      2770      2775      2780
1405 Glu Thr Ile Leu Asp Val Tyr Pro Ala Thr Gln Met Gln Arg Val Phe
E--> 1406 785      2790      2795      2800
1408 Leu Leu Asn Pro Val Thr Gly Lys Pro Arg Ser Pro Thr Pro Phe His
1409      2805      2810      2815
1411 Ile Asp Phe Pro Pro Asp Ala Asp Cys Ala Ser Leu Met Arg Ala Cys
1412      2820      2825      2830
1414 Ala Ser Leu Ala Lys His Phe Asp Ile Phe Arg Thr Val Phe Leu Glu
1415      2835      2840      2845
1417 Ala Arg Gly Glu Leu Tyr Gln Val Val Leu Lys His Val Asp Val Pro
1418      2850      2855      2860
1420 Ile Glu Met Leu Gln Thr Glu Glu Asn Ile Asn Ser Ala Thr Arg Ser
E--> 1421 865      2870      2875      2880
1423 Phe Leu Asp Val Asp Ala Glu Lys Pro Ile Arg Leu Gly Gln Pro Leu
1424      2885      2890      2895
1426 Ile Arg Ile Ala Ile Leu Glu Lys Pro Gly Ser Thr Leu Arg Val Ile
1427      2900      2905      2910

```

see page 4

<210> 5
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer for cyclic depsipeptide synthetase gene

<400> 5
tggacnwsna tgtaygaygg

20

<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer for cyclic depsipeptide synthetase gene

<400> 6
gtnggraart aytnaⁿⁿac

20

All 'n' must have feature with numeric identifiers <2207-2223>.
See item #9 on error summary sheet.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/070,387

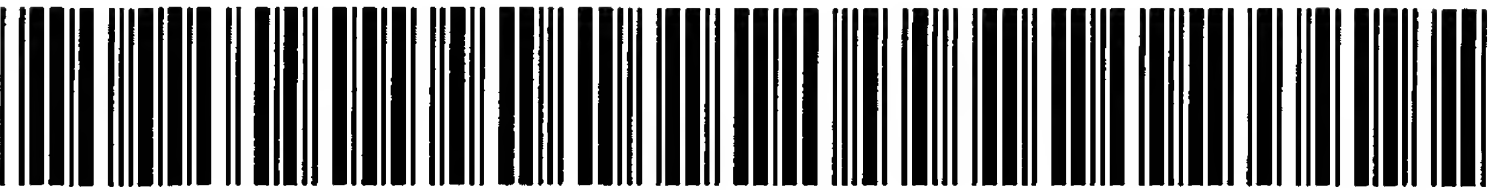
DATE: 03/21/2002

TIME: 14:51:33

Input Set : A:\EP.txt

Output Set: N:\CRF3\03212002\J070387.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:38 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:42 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:46 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:50 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:54 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:58 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:62 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:66 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:70 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:74 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:78 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:82 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:86 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:91 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:95 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:99 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:103 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:107 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:111 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:115 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:120 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:124 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:128 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:132 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:136 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:140 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:144 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:149 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:153 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:157 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:161 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:165 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:169 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:173 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:178 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:182 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:186 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:190 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:194 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:198 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:202 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:207 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:211 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:215 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:219 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:223 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1



Creation date: 21-08-2003
Indexing Officer: JLE1 - JESSICA LE
Team: OIPEBackFileIndexing
Dossier: 10070387

Legal Date: 19-11-2002

No.	Doccode	Number of pages
1	M903	2

Total number of pages: 2

Remarks:

Order of re-scan issued on